P. READING.

Corn Sheller.

No. 2,266. Patented Sept. 25, 1841.

Fig. 7.

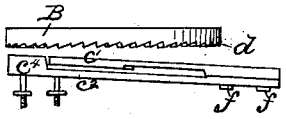


Fig. 3.

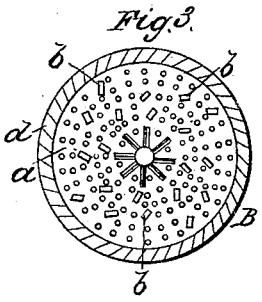


Fig. 1.

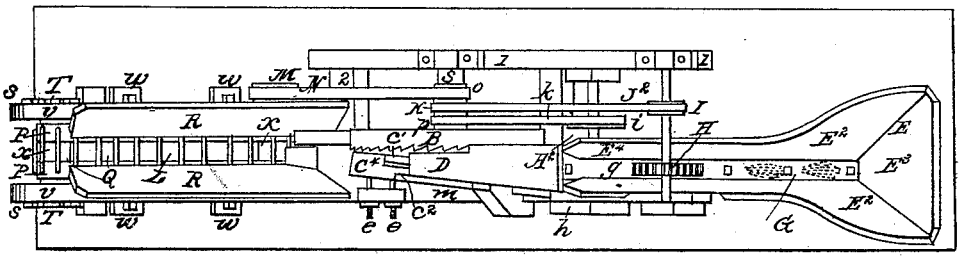


Fig. 6.

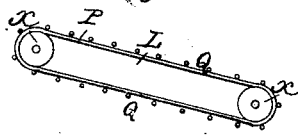
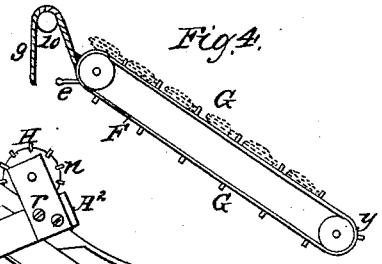


Fig. 2

Fig. 4.



UNITED STATES PATENT OFFICE.

PEIRSON READING, OF BATAVIA, OHIO.

CORN-SHELLER.

Specification of Letters Patent No. 2,286, dated September 25, 1841.

To all whom it may concern:

Be it known that I, PEIRSON READING, of Batavia, in the county of Clermont and State of Ohio, have invented an Improvement in Machines for Shelling Corn, which is described as follows, reference being had to the annexed drawings of the same, making part of this specification, of which—

Figure 1 is a top view of the machine. Fig. 2 is a side elevation; Fig. 3, face of the shelling wheel. Fig. 4, section of the corn elevator. Fig. 5, hinge, cord, weight, and pulley. Fig. 6, section of the cob conveyer. Fig. 7 is a top view of the springs, the cap D being removed.

Similar letters refer to corresponding parts in the several figures.

The frame A, is made of sufficient size and strength to receive the different parts of the machinery hereafter described. It is composed of two side pieces 1, 1, two cross pieces 2, 2, with tenons passing through the side pieces secured by pins, and stands on four legs 3, being fixed in the position of the inclined plane, to effect which the hind legs 3 are made shorter than the fore legs 3,

The sheller B is a cast iron circular plate about two feet 9 inches diameter and scant half inch thick, placed in a vertical position on a shaft *s* passing through the center with turned gudgeons at the ends inserted in metal boxes in the frame A; on this shaft are placed three pulleys *p*, *o*, *k*, giving motion to other parts of the machine hereafter described. The shelling plate B on its face or side next the spring *c* has teeth of two different kinds. One kind lettered *a* are for shelling off the corn. The others *b* are for propelling the ears forward and are so constructed and placed in an oblique position that they pass the ears forward while the operation of shelling is going on by the other teeth. The shelling teeth *a* are three-eighths of an inch from the face of the wheel and terminate in a point and are placed in concentric circles three-quarters of an inch asunder except where they give place to the carrying teeth *b*. One set of the carrying teeth *b* are placed near and around the center of the wheel and are eight in number, placed equidistant on straight lines radiating from the center toward the circumference. The length of each of these carrying teeth is one and a half inches and projects three-eighths of an inch from the face of the wheel and are nearly perpendicular on their front side. The opposite side is beveled or sloped. Another set of teeth *d* is arranged in a circle near the verge three-quarters of an inch asunder and in an oblique position on chord lines. There are four other sets or rows placed at equal distance apart, beginning at or near the eight teeth before described about the center, and continued to those at the circumference *d*, verging from right lines in a spiral direction, each tooth having the same obliquity as those at the verge, and the same length.

Two springs c^1 c^2 are used to press the ears against the shelling wheel, by which means two ears can be shelling at the same time. They are united together by screws *f* at one end. The opposite ends separate and are apart about one inch. The outer spring c^2 extends beyond the other c^1 at the open end about 5 inches, where it has an enlarged form c^4 so as to correspond with the inner surface of the other spring c^1. Near the end where they are united a screw bolt *f* and nut fastens them on the upper side of the frame near the elevated end, leaving a space between the sheller B and spring *c* sufficient for the ears to pass down the inclined plane *m*, where they come in contact with the teeth, *a*, *b*. The springs approach the teeth at the lower end more than at the upper in order to prevent the ears from passing out from the space between the sheller and springs before the corn is shelled from the cob; the springs yield to accommodate the different sized ears admitted and are made to act with more or less effect by means of screws *e*, *e*, and *f*, *f* at each end. Upon and over these springs there is placed a cap D to guide and give the ears their proper direction and prevent them from being thrown up out of the space between the sheller and spring.

A hopper E in the position of the inclined plane is attached to the elevated end A^2 of the frame A having sides E^2 and ends E^3 sloping inward large enough at the lower end to contain several bushels of corn, the upper position having a diminished form as at E^4 open at the bottom between the sides forming a space *g* about two and a half inches wide, under which and against the hopper passes a leather endless belt F four inches wide revolving over two pulleys *y* having iron shafts and turned gudgeons, one pulley being at the upper end of the hopper, the other at the lower. The gud-

geons of the upper shafts are inserted in posts *h* fastened to and projecting upward from the sides of the frame, having on said shaft one other pulley *i* over which a belt *k* passes to a pulley *p* on the shaft of the revolving sheller B. The gudgeons of the lower shaft are inserted in posts *q*, on which the hopper is fixed and supported. To the belt is fastened at intervals projecting irons G for the purpose of taking hold of the ears of corn as the belt revolves and cause them to move forward and be delivered to the sheller.

Near the upper end of the hopper is placed a revolving wheel H with irons *n* projecting from its periphery for the purpose of striking against the ears of corn to adjust them having an iron shaft the gudgeons of which are inserted in posts and projecting upward from the frame A on which shaft there is a pulley I over which a belt J passes to a pulley K on the shaft of the sheller B, giving rapid motion to the wheel H, the irons of which strike the corn and drive back the surplus ears, admitting only one to pass at the same time underneath the said wheel H on the inclined plane. Where the corn enters the space there is fixed a hinge *l* yielding occasionally to the cobs or ears to let the belt F and irons pass freely and then returning to the former position, which is effected by means of a weight 8 and cord 9 and pulley 10.

A cob carrier L is placed in front of the sheller in an inclined position inclining upward from the frame A to receive the cobs. One end is attached to the lower end of the frame A of the machine. The other end is elevated and supported by posts *u*. Its frame is composed of two side pieces *v*, *v*, and two cross pieces *w*, *w*, the cross pieces having tenons passing through the side pieces and secured by keys 11, 11. Two rollers *x x* with gudgeons in their ends are placed in this frame near each end. The lower roller has a gudgeon of sufficient size to receive a pulley *m* on the outer side of the frame over which passes a belt N communicating with a pulley O on the shaft of the revolving sheller B. Belts P P pass over those rollers near their ends, to which are fastened at intervals transverse parallel iron rods Q of large wire, leaving spaces between them sufficient for the corn to pass through, but not the cobs. These are to be conveyed off at the rear. Additional side pieces R or guards are placed on the upper parts of the other side pieces V to guide and direct the cobs. The endless revolving belts P P are adjusted or tightened by means of movable or sliding racks or blocks S and stops or pawls T turning on pins inserted into the sides of the upper ends of the side pieces *v* in which the gudgeons of the upper rollers are inserted. By detaching the feeder and cob carrier and adding a crank and two cog wheels to give it the requisite motion this combination then forms a good hand machine.

Manner of using the machine.—The machine is put in operation by horse power, water power, or any other appropriate power, and when in motion the corn to be shelled is put in the hopper E. The irons on the belt F take hold of the ears and carry them up to the opening between the springs and the sheller, when they fall and pass down the inclined plane *m* of the frame until they come within reach of the teeth of the sheller B, when the corn is stripped from the cobs by the teeth *a*, while the teeth *b* turn the cobs and urge them forward down the inclined plane and out from between the springs and shell and pass them on to the cob conveyer, which conveys them off at the rear while the corn falls down through the spaces between the bars of the conveyer and the space between the sheller and inclined plane.

What I claim as my invention and which I desire to secure by Letters Patent is—

1. The arrangement of the endless inclined feeding belt with iron plates fixed thereto in combination with the upward inclining hopper and the revolving spur wheel turning in said hopper for adjusting the ears so as to cause them to approach the sheller endwise, and these in combination with the sheller B and double springs c^1 c^2 for shelling several ears at the same time and the endless open cob conveyer as described.

2. The arrangement of the hinged shutter at the head of the inclined plane for yielding to an accumulation of ears so as to permit the endless conveyer F to work freely as described.

3. The arrangement of the oblique teeth *b* on the face of the sheller B for giving the ears a forward progressive movement while the teeth *b* give them a rotary motion and shell the corn as described in combination with the teeth *a* as herein set forth.

PEIRSON READING.

Witnesses:
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THOS. L. BRYAN.